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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,594	11/03/2006	Horst Berneth	CH-8423/LeA_36,554	6246

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Lanxess Corporation
Patent Department
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EXAMINER

FIERRO, ALICIA LORETTA

ART UNIT	PAPER NUMBER
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4121

MAIL DATE	DELIVERY MODE
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01/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,594

Applicant(s)

BERNETH ET AL.

Examiner

ALICIA L. FIERRO

Art Unit

4121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Status of Claims

1. Claims 1-9 are pending in the instant application, filed on December 28, 2005.

Priority

2. The instant application is a national stage entry of PCT/EP04/06727, filed June 22, 2004, which claims priority to German Patent document 10329711.1, filed July 2, 2003.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on November 3, 2006 was in compliance with the provisions of 37 CFR 1.97 and 37 CFR 1.98. The IDS document was considered. A signed copy of form 1449 is enclosed herewith.

Objections

4. The examiner requests that the word "phthalocyanin" in the title of the application be changed to "phthalocyanine" to reflect the spelling of the compound throughout the specification and the claims.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 9 provides for the use of phthalocyanine isomer mixtures of claim 7, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 9 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

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Claim Rejections – 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The presence of more than one range for the wavelength of the infrared light to be used renders claim 8 indefinite. In the present instance, claim 8 recites the broad recitation that

the wavelength is in the range of 750-800nm, and the claim also recites that the wavelength may be 770-790nm which is the narrower statement of the range/limitation.

Claim Rejections – 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4, and 6-7 are rejected under 35 U.S.C. 102 (b) as being clearly anticipated by Oguchi *et al.* in US Patent 5,334,714, which has a publication date of 8/2/1994.

The inventors in '714 teach a process for the preparation of a molecule of formula (3) (column 2, lines 15-33). They allow for R1 of the alkoxy substituents to be any secondary alkyl group comprised of 3 to 20 carbon atoms and for Met to be any divalent metal atom or metal oxide, which meets all of the limitations of the phthalocyanines of formula (I) in the instant application. The process taught by '714 involves the heating of a phthalonitrile of formula (2) in a water-miscible solvent (namely an alcohol solution) with an organic base and in the presence of a metal or metal derivative. Additionally, in column 4 of '714, several R1 groups are taught which anticipate those of claim 3 in the instant application (for example, wherein R1 is an isopropyl, *t*-butyl, or cyclohexyl group). Divalent metals and metal oxides, including Cu, Zn, Mn, Fe, Co, Ni, Ru, Rh, Pd, Pt, Pb, VO, and TiO, are taught and anticipate claim 4 of the instant application. Column 4, lines 66-68, list possible organic bases DBU and DBN to be used in the

synthesis, which anticipates claim 6 of the instant application. The limitations of claim 7 in the instant application are anticipated in columns 5-6 of '714. Isomers (Iy) and (Iz) correspond to formulae (8) and (10). Oguchi *et al.* teach that an isomer mixture produced by their synthesis methods could have anywhere from 40 to 60 percent of isomer (8) and that isomer (10) would also be present in the case that the mixture is not made up of 100 percent of isomers (7) and (8). Thus, the limitations of instant claim 7 are anticipated by '714.

Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 102 (b) as being clearly anticipated by Banning *et al.* in US Patent 6,472,523, which has a publication date of 10/29/02.

The inventors teach a process wherein (4-(3-n-pentadecyl)phenoxyphthalonitrile), or another alkylarylether phthalonitrile adduct, is reacted with a metal salt in a solvent to form a tetra-substituted phthalocyanine compound which meets all limitations of instant claim 1 (columns 33-35). Many solvent choices are listed, including dimethylsulfoxide, N,N-dimethylformamide, and 1-methyl-2-pyrrolidinone (column 33 lines 57-67), which meet the limitations of instant claim 2. Additionally, the inventors in the '523 patent allow for M to be either a metal (such as copper, cobalt, lead, nickel, zinc, or iron, among others) or a metal halide (column 33 lines 37-49), thus meeting the limitations set forth in instant claim 4. Several different embodiments of the above reaction are described in the '523 patent, each at a different temperature. The inventors in the '523 patent teach that the reaction mixture is to be heated to reflux, which, depending on the embodiment used, should not exceed 190°C or 250°C. Finally, the applicants in '523 disclose the use of a "reaction promoter" in the reaction mixture. This

promoter can be an ammonia-releasing compound (column 35, lines 14-15) which allows for the possibility of a base (more specifically, ammonia) to be included in the reaction.

Claim Rejections – 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Please note that since the phrase “optical data carrier” was not defined in the instant specification, the following definition was applied for prosecution on the merits: an optical data carrier is any device capable of storing optical data (as in Snow *et al.*, U.S. Patent No. 6,933,402).

13. Also note that for the purposes of examination on the merits, the “if desired” language of Claim 8 was not given patentable weight. Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. See MPEP 2111.04.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,933,402 in view of U.S. Patent No. 5,334,714.

15. The Patent '402 discloses the use of phthalocyanine compounds as chromophores in optical data storage applications, meaning that substituted phthalocyanines are the light-absorbent compound in the optical data carrier (paragraphs [0002]-[0004]).

16. This document does not specifically disclose the application of phthalocyanine mixtures onto a substrate to create the optical data carrier, but this structure is inherent to the functionality of any optical data carrier, meaning that if the substrate were not intrinsically present the structure would not function as an optical data carrier. The '402 patent does not disclose the use of the specific isomer mixture of instant Claim 7 in optical data carriers.

17. The '714 patent teaches an isomer mixture produced by their synthesis methods could have anywhere from 40 to 60 percent of isomer (8) and that isomer (10) would also be present in the case that the mixture is not made up of 100 percent of isomers (7) and (8).

18. One of ordinary skill in the art would be motivated to combine the isomer mixture taught by '714 with the optical data carrier disclosed in '402 because it is well known in the art that phthalocyanine compounds in general are useful in optical data storage applications. Further, '402 teaches that both the addition of peripheral substituents and the use of a mixture of phthalocyanine isomers are useful in optimizing the process of depositing a film of phthalocyanine compounds onto the optical data carrier (paragraph [0006]). Thus, when one of ordinary skill in the art develops a novel substituent or isomer mixture for phthalocyanine compounds, there would be *prima facie* obvious motivation to use the new mixture on an optical data carrier.

19. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0155381, which has a publication date of 10/24/2002.

This document teaches optical data carriers meeting all limitations set forth in instant claim 8. Example CCCIX teaches a compound of instant formula (I) which can be used as the light-absorbent compound on the information layer of the optical data carrier. Although the document does not specifically teach the isomer mixture of instant claim 7, example CCCIX can be substituted at any point of attachment on the ring system as one of skill in the art would readily recognize. Thus, both isomers (Iy) and (Iz) are taught by this reference and could be combined into a mixture that meets the limitations of instant claim 8.

Double Patenting

20. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

21. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,896,945 in view of U.S. Patent No. 6,933,402.

22. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, for example, *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

23. Although the conflicting claims are not identical, they are not patentably distinct from each other because the optical data carrier of instant claim 8 would have been obvious to one of ordinary skill of the art in view of the '402 patent in combination with the '945 patent. In U.S.

Patent '945, claim 1 is drawn to an optical data carrier comprising a substrate wherein said substrate is coated with a light-absorbent phthalocyanine compound of formula (I):



Where X_1 and X_2 represent a halogen atom, Me is either Si, Ge, and Sn, and Pc is an unsubstituted phthalocyanine.

The difference between claim 8 of the instant application and the optical data carrier of '945 is the presence of four substituents on the phthalocyanine molecule of the instant application. However, one of ordinary skill in the art would have been motivated to make such substitutions in view of the specification of '402. This patent describes the use of substituted phthalocyanine compounds for optical data storage applications. The applicants state that "when peripheral substituents are bonded to the phthalocyanine, molecular packing efficiency and crystallinity are reduced, and the resultant materials may be soluble in a variety of solvents" (paragraph [0006]). The solubility of the phthalocyanine molecule is desirable for such applications to form films which would coat the substrate in the optical data carrier. Further, the applicants in '402 explain that the substituted peripheral groups need to create various structural isomers in order to be effective (paragraph [0006]).

Thus, one skilled in the art would have found the claimed optical data carrier *prima facie* obvious because it has been established that substituting the phthalocyanine ring structure confers benefits on the optical quality and deposition method. The motivation to make the instantly claimed optical data carriers derives from the expectation of improved deposition methods which have already been established by the prior art.

Conclusion

24. No claims are allowed.
25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALICIA L. FIERRO whose telephone number is (571)270-7683. The examiner can normally be reached on Monday - Friday 8:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Nolan can be reached on (571)272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF

/Patrick J. Nolan/
Supervisory Patent Examiner, Art Unit 4121